



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

TODD ET AL.

Serial No.: **10/650,101**

Filed: **Aug. 26, 2003**

Title: **"COMPOSITIONS AND METHODS FOR
REDUCING THE VISCOSITY OF A
FLUID"**

§ Group Art Unit: **1712**

§ Examiner: **ZIMMER, MARC S.**

§ Atty. Docket No: **2001-IP-005443U2**

CERTIFICATE OF MAILING

ATTY. DOCKET NO.: 2001-IP-005443U2

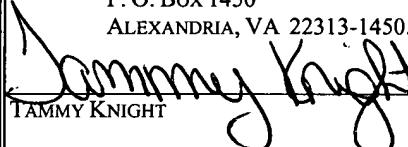
GROUP ART UNIT: 1712

EXAMINER: ZIMMER, MARC S.

PURSUANT TO 37 C.F.R. § 1.10, I HEREBY CERTIFY THAT I HAVE INFORMATION AND A REASONABLE BASIS FOR BELIEF THAT THIS CORRESPONDENCE WILL BE DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS EXPRESS MAIL, POST OFFICE TO ADDRESSEE, ON THE DATE INDICATED BELOW, AND IS ADDRESSED TO:

MAIL STOP AMENDMENT
HONORABLE COMMISSIONER FOR PATENTS
P. O. Box 1450
ALEXANDRIA, VA 22313-1450.

EXpress MAIL LABEL: EQ726823771US



7/25/06
DATE

MAIL STOP AMENDMENT
Honorable Commissioner of Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

DECLARATION PURSUANT TO 37 C.F.R. § 1.131

We, the undersigned, hereby declare and state that:

1. We are each over the age of 21 years, of sound mind, and competent in all respects to make this Declaration.
2. We are the inventors of the subject matter of the above-referenced application, entitled, "Compositions and Methods for Reducing the Viscosity of a Fluid" (the "Patent Application").

3. The Examiner rejected claims 1, 2, 7-9, 14-16, 21, 22, 27, and 30 (the "Claims") of the Patent Application in an Office Action mailed March 6, 2006, based, in whole or in part, on U.S. Patent Application Publication No. 2005/0028976 by Philip D. Nguyen ("the Nguyen Application") that was filed on August 5, 2003.

4. Sometime prior to August 5, 2003, we, the undersigned, developed an understanding and appreciation of the subject matter as described in the Patent Application and Claims, as evidenced by an invention disclosure form attached as Exhibit A, which is described below.

5. As an example, we, the undersigned, reduced to practice the subject matter of the Patent Application and Claims as evidenced by attached Exhibit A. The methods shown in Exhibit A include at least a method of reducing the pH of a servicing fluid comprising the steps of: providing a crosslinked, viscous servicing fluid comprising an acid-releasing degradable material; allowing the acid-releasing degradable material to produce an acid; and allowing a pH of the servicing fluid to be reduced. Exhibit A includes experimental results, which with the accompanying textual description, show a reduction to practice of this subject matter.

6. The acts referred to in paragraphs 4 and 5 were carried out in the United States prior to August 5, 2003.

7. We hereby declare that all statements made herein and of our knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Bradley L. Todd
Bradley L. Todd

7-18-2006

Date

Billy F. Slabaugh
Billy F. Slabaugh

7-6-2006

Date

Trinidad Munoz, Jr.
Trinidad Munoz, Jr.

7-24-2006

Date

EXHIBIT A

HALLIBURTON ENERGY SERVICES GROUP

Page 1 of 1

INVENTION DISCLOSURE

P.M. No.

2001-IP-005443

TITLE: Lactides for use as Delayed pH Reduction

FULL NAME OF FIRST JOINT INVENTOR

Bradley L Todd
First M. Last
1810 Windsor Dr Duncan
Address: Street City State Zip

EMPLOYEE NO. 00103066 ENTITY/DEPT.: PEP&P

FULL NAME OF SECOND JOINT INVENTOR

Billy F Slabaugh
First M. Last
Rt 2 Box 485A Marlow
Address: Street City State Zip

EMPLOYEE NO. 00103072 ENTITY/DEPT.: PEP&P

Description of Invention: Give brief description of invention, and where possible a sketch. Do not write on back of this sheet. If additional space is necessary, use additional disclosure sheets (R&S 2311) and number consecutively. Sign and date each sheet and have each witnessed. Witnesses must be persons capable of understanding invention. If invented prior to date on this sheet, give full details - date, to whom disclosed, identify drawings, if any, etc. If used in the field, specify for what company and designate well and date.

Lactides are cyclic, intermolecular double esters formed from α -hydroxy acids. The term can also be used for the particular double ester of lactic acid. Likewise, glycolide is a term used for the cyclic double ester of glycolic acid. When these materials are placed in an aqueous media, they will eventually hydrolyze to the parent α -hydroxy acid. The rate at which they hydrolyze produces a controlled delayed reduction in pH useful as a breaker in fracturing fluids.

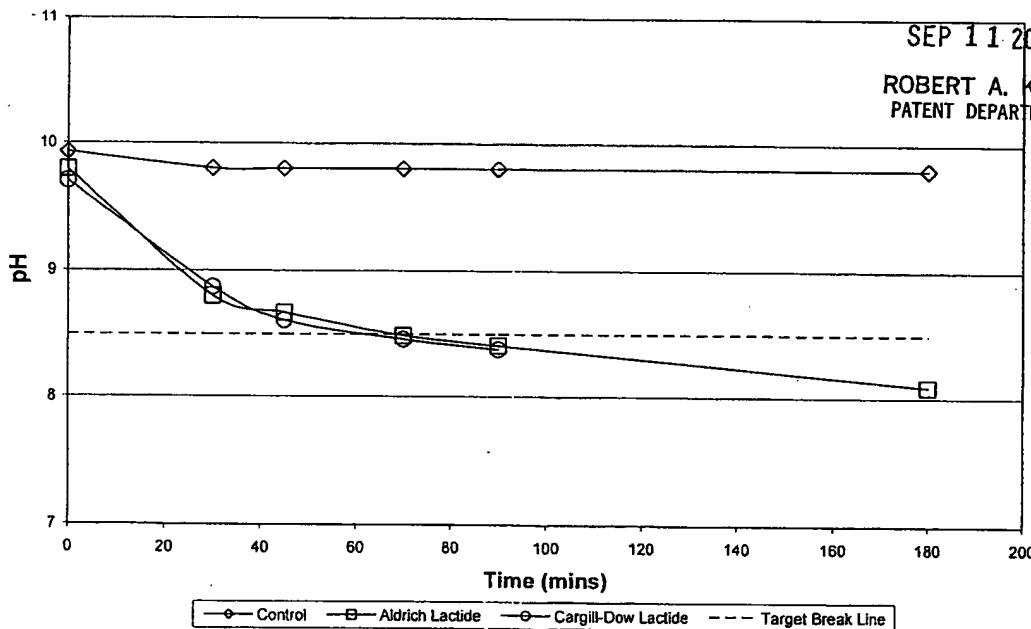
The rate of pH reduction was tested with both reagent grade (Aldrich) and agricultural grade (Cargill-Dow) at 130 degrees F on a HPF fluid. See figure below for pH reduction. For this fluid, a pH of about 8.5 causes the fluid to break. The figure on the next page shows the Model 50 break of an HPF fluid at 150F with 30 #/M lactide.

Lactide Break of HPF Fluid

RECEIVED

SEP 11 2001

ROBERT A. KENT
PATENT DEPARTMENT



Signed at Duncan, OK this 10 day of Sept 1, 2001

Bradley

Signature of Inventor

Signed at Duncan, OK this 10 day of September, 2001.

Billy Slabaugh

Signature of Inventor

Explained to and Understood by Me:

Bradley

Signature of Witness

Date

Please forward immediately to: Halliburton Services, Patent/Legal, Duncan, OK 73536-0102

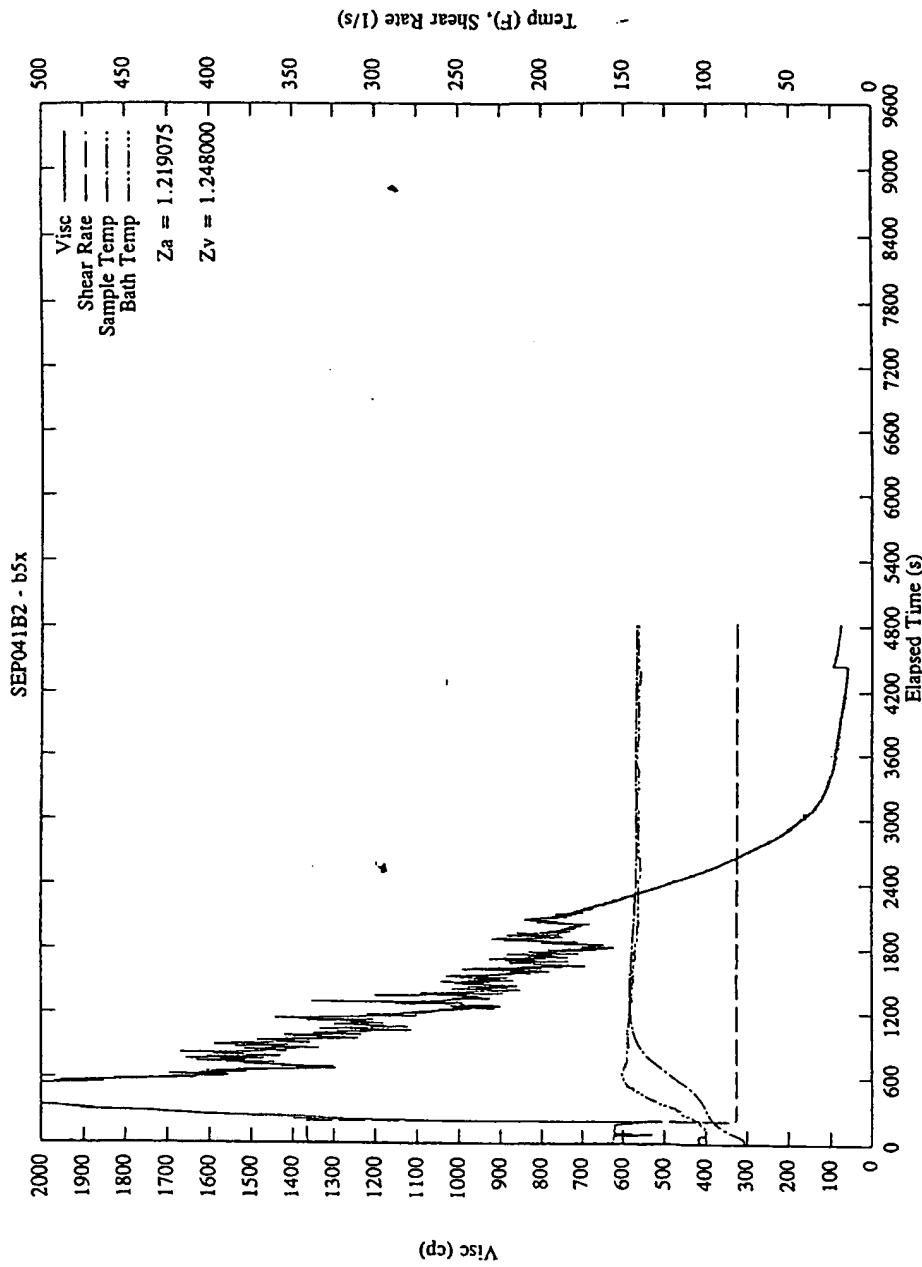
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Page 2 of 2

INVENTION DISCLOSURE

P.M. No.

TITLE: Lactides for use as Delayed pH Reduction



Signed at Duncan, OK this 10 day of Sept, 2001
Neal Todd

Signature of Inventor

Signed at Duncan, OK this 10 day of September, 2001
Billy Shaffer

Signature of Inventor

Explained to and Understood by Me:

David Clegg

Signature of Witness

Please forward immediately to: Halliburton Services, Patent/Legal, Duncan, OK 73536-0102

9-11-01

Date